

THE PREVENTION OF PEDICULOSIS.

AN ANTI-PARASITIC VEST.

A very interesting note of the prevention of pediculosis, by Captain J. A. Gunn, M.A., M.D., D.Sc., R.A.M.C.T., is published in the *British Medical Journal*. Captain Gunn writes that the difficulty of keeping the soldier free from pediculosis is of importance, "not only on account of the distress which the condition directly causes, but also by reason of the part it may play in the dissemination of disease.

"The possibility which seemed at first practical and most likely of success was to obtain some solution of a parasiticide substance in a volatile solvent which could be sprayed on those parts of underclothing chiefly haunted by the parasite. While I was investigating a spray for this purpose, Mrs. Arthur Thomson brought me some undervests, which were being made by a work party in Oxford for distribution to soldiers, with the query whether they could be dipped, previous to distribution, in some anti-parasitic solution. Those undervests were made of a material called butter muslin, which is very thin and light, and so cheap that I believe the intention was that the garments could be thrown away after being worn once. With such a tenuous material it appeared likely that dipping of the whole garment might be adopted without the use of such a quantity of solution as to render the cost prohibitive for wide use. There are, of course, other drawbacks to dipping the usual types of underwear in solutions of any kind.

"From a consideration of such literature as was immediately available to me, the parasiticides which appeared most promising were naphthalene and sulphur, and, after some experiments, I finally adopted a solution of naphthalene and sulphur, 1 per cent. of each, in benzol. This solution, at first intended as a spray, was now used to dip the undervests; though it could still be used as a spray. When the undervests are dipped in this solution and wrung, the benzol, of course, evaporates in a few minutes, and leaves the garments impregnated with sulphur and naphthalene in minute particles. I found that undervests so treated did not cause any irritation when worn next the skin, and that they retained the naphthalene and sulphur sufficiently long for practical purposes. By this method those substances not merely are deposited on the surface of the garment, but actually penetrate the fibre.

"The cost of such an undervest in the spring of 1915 was about fourpence; and the cost of

dipping, when batches of about fifty were done at a time, was about one farthing a garment. Owing to the increase in prices, the cost both of the garment and of the dipping has about doubled when the various materials are privately purchased.

"Benzol, which was first used, later became unobtainable, and the second grade of petrol was used instead. The latter does not seem to be quite such a good solvent, especially for sulphur; but in either case it is well to allow at least twenty-four hours for solution, the substances being used in fine powder. The solution can be made with sufficient accuracy by using an ounce and a half each of naphthalene and sulphur to one gallon of benzol or petrol. Solution may not be quite complete. The quicker the manipulation the larger the number of garments that can be dipped in a given quantity of solution; and various devices towards such economy will suggest themselves.

"Undervests of this material are very comfortable to wear. Owing to their thinness they do not, in cold climates, constitute an undesirable addition to ordinary underwear; but in tropical climates I believe they have been worn alone. Impregnation with sulphur and naphthalene does not give rise to such an objectionable aroma as one might imagine. It would be an obvious advantage, for more complete protection, to have pants made and treated in the same way, and I understand that this is now frequently done.

"Since June, 1915, undervests of this material and dipped in this way have been sent out in large numbers to officers and men at the seats of war. . . . I am indebted to Mrs. Gerrans not only for taking the actual dipping in hand, but also for her trouble in corresponding with the men who have received the vests. She has now distributed some thousands of these garments. The testimony of officers and men has been so unanimous in favour of the high or complete protection which these vests have afforded against *Pediculus corporis* that I feel that further hesitation in making the method more widely known may be unjustifiable.

"Dipping the garment in a solution of sulphur and naphthalene in benzol has advantages over merely sprinkling the garment with the same substances in powder: (1) because the distribution of the powder is uniform and universal; (2) because, being impregnated in the fibre of the garment, it is longer retained; and (3) because the treatment is not left to the soldier himself, who receives the garment already treated. I may add an extract from a

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